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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,947

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Gabor Fodor

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NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER

TRAN, MONG-THUY THI

ART UNIT

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4145

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,947	Applicant(s) FODOR ET AL.	
	Examiner MONG-THUY TRAN	Art Unit 4145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/21/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the Applicant's communication filed on 01/16/2007. In virtue of this communication, claims 1 - 17 are currently pending in the instant application.

Drawings

2. The drawings submitted on 06/21/2006. These drawings are reviewed and accepted by the examiner.

Information Disclosure Statement

3. The Information Disclosure Statement (IDS) Form PTO-1449, filed on 06/21/2006 is in compliance with the provision of 37 CFR 1.97. Accordingly, the information disclosed therein was considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. **Claims 14 and 17** are rejected under 35 U.S.C. 102(b) as being anticipated by Lindell (Pub # US 2002/0039892 A1).

Regarding claim 14, Lindell discloses a method of providing simultaneous access to a plurality of radio based access networks from a moving system that comprises a user terminal (i.e., a mobile communication station 100 inherent a moving system), with a plurality of diverse applications (see abstract), the method comprising:

“signaling a QoS profile, comprising QoS parameter values, which an application requires, to an access selector, at the start of said application” (i.e., upon receiving a request for access to an access network, the network and service selector 210 retrieves one or more user preferences 306 (e.g., QoS requirements) associated with the user of the mobile communication station 100 and select one of the available access networks 1-n to be used by the requesting application 212, see fig. 2, fig. 3, and § [0033]);

“signaling from each available radio access network via an individual access adapter, which is associated with said available access network, to the access selector radio access network dependent information as well as status information about that network's resources” (i.e., the network and service selector 210 can use radio link conditions 302 of the access networks 1-n, and such radio link conditions 302 can be derived, for instance, from the signal quality of the broadcast pilot signals of the access networks 1-n, see fig. 3 and § [0031]);

“executing an access selection algorithm which based on the QoS parameters signaled in the QoS profile and status identifies the access network that should be used

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for the application” (i.e., the software program is configured to receive a request to access an access network from an application executed by the processing unit, the request including at least one service requirement, see § [0014] and § [0040]);

“communicating the access selection to the user terminal” (see fig. 1 and § [0040]); and

“instructing the access adaptor of the selected access network to set up a radio bearer in its associated radio access network” (i.e., the selected access network and service information can then be reported to the requesting application at step 405, and then the application can thereafter be configured and/or adjusted as needed based on the selected network and service. An access request is subsequently issued to the selected access network at step 406, and a connection is then established with the access network in a conventional manner, see fig. 4 and § [0040]).

Regarding claim 17, Lindell discloses a method for scheduling the access to an access network from a mobile user terminal (i.e., fig. 4 and § [0040]) wherein

“a service request and an QoS profile associated therewith are signaled from an application to an access selection selector” (see fig. 3, fig. 4, and § [0030]),

“that the access selector compares information given in the QoS parameters contained in the QoS profile with status information received from access networks that are available to the user terminal” (i.e., the mobile communication station 100 can continuously monitor the broadcast pilot signals for information such as current traffic loads, downlink power levels, uplink interference levels, bit error rates, and other similar

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information from each one of the access networks 1-n. Such information allows the network and service selector 210 to determine the current radio link conditions 302 for the access networks 1-n and, consequently, whether a particular access network is able to satisfy the requirements of the requesting application 212, see § [0031]),

“that the service request is stored in the user terminal (i.e., user preferences are stored and retrieved directly from the mobile communication station 100) in case said comparison reveals there is no access network available that fulfils the QoS requirements” (see § [0036] and § [0037]),

“that the access selector monitors the status information received from available radio access networks, and repeats the comparison step and instructs the application to execute when the comparison indicates a radio access network is available that fulfils the QoS profile” (i.e., the mobile communication station 100 can continuously monitor the broadcast pilot signals for information such as current traffic loads, downlink power levels, uplink interference levels, bit error rates, and other similar information from each one of the access networks 1-n. Such information allows the network and service selector 210 to determine the current radio link conditions 302 for the access networks 1-n and, consequently, whether a particular access network is able to satisfy the requirements of the requesting application 212, see § [0031]).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1 – 6, 8, 9, 12, and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindell (Pub # US 2002/0039892 A1), in view of Sumner et al. (Pub # US 2003/0142641 A1).

Regarding claim 1, Lindell discloses a system allowing “a user terminal in a network” (i.e., 100 fig. 1) to simultaneously access “a plurality of radio based access networks of diverse access technologies” (i.e., AN1, AN2, ..., Ann, fig. 1), said radio based access networks being adapted for connection to “a common backbone network” (i.e., Service 1, Service 2, ..., Service k, fig. 1), comprising:

“access selection adapter associated with a respective radio based access network” (i.e., radio transceiver 202, fig. 2), for “receiving access dependent information from its respective access network” (i.e., 401, 402, 403 of fig. 4 and § [0040]) and “for mapping said information on access technology independent status information” (i.e., 404, 405, 406 of fig. 4 and § [0040]).

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“an access selector” (i.e., 210 fig. 2) interacting with “applications” (i.e., 212 fig. 2) resident in a user terminal (i.e., 100 fig. 2) and “with each access adapter for selection of a radio access network based on an individual QoS profile associated with each respective application and on said access technology independent status information” (see § [0029], § [0030], § [0033]).

Lindell does not disclose two access selection adapters, each one associated with a respective radio based access network.

Sumner discloses “two access selection adapters, each one associated with a respective radio based access network” (i.e., 412, 414 of fig.4 and § [0012], § [0031]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Lindell's system in order to be always best connected, as suggested by Sumner.

The motivation would provide to utilize the larger bandwidth available and utilize the more ubiquitous lower bandwidth (see Sumner in § [0020]).

Regarding claim 2, Lindell as modified discloses “the access selection adapter comprise a protocol spanning the access networks, the backbone network and the access selector, thus allowing interoperation between an application and an end terminal connected to the backbone network and making the access adapters transparent to the applications” (i.e., the radio transceiver unit can be a standard radio transceiver and associated software that is capable of sending and receiving radio frequency signals to and from the AN1... An and the service 1 – k (e.g., backbone

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network) in order to access and communicate with the access networks, see Lindell § [0021] and § [0025]), and “two access selection adapters, each one associated with a respective radio based access network” (see Sumner 412, 414 of fig.4 and § [0012], § [0031]).

Regarding claim 3, Lindell does not disclose “the radio access dependent information is provided by an access manager in the access selection adapter and is signaled between the access selection adapter and its corresponding access network on the spanning layer”.

Sumner discloses the radio access dependent information is provided by “an access manager” (i.e., 416 fig.4) in “the access selection adapter” (i.e., 410 fig.4) and is “signaled between the access selection adapter and its corresponding access network on the spanning layer” (see § [0031]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Lindell’s system in order to be always best connected, as suggested by Sumner.

The motivation would provide to utilize the larger bandwidth available and utilize the more ubiquitous lower bandwidth (see Sumner in § [0020]).

Regarding claim 4, Lindell discloses “the radio access dependent information comprises any of the following attributes: signal strength, signal quality, delay, service precedence, reliability, mean throughput and peak throughput, bit error ratio, control

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load parameters, media description parameters, packet format information, expected delay bound, packet loss ratio, bit error rate (BER), packet handling priority, packet loss ratio (PLR), and combinations thereof” (i.e., bit rate, transfer delay time, frame error rate, signal quality, bit error rate, and a path loss estimation, see § [0030] - § [0032]).

Regarding claim 5, Lindell discloses “the radio access dependent information further comprises cost and/or available bandwidth” (i.e., selection information allows the requesting application to be configured to operate within the available bandwidth and additional cost of the fastest bit rate services, see § [0034], § [0035], and § [0037]).

Regarding claim 6, Lindell as modified discloses “at least one access selection adapter comprises a QoS controller (i.e., Winsock Generic Quality of Service) for generating the status information by interacting with the corresponding application” (i.e., allows a Winsock application to inform the network of its traffic requirement and enabling entitled the network of its traffic requirements, see Lindell § [0039]);

“a translator (i.e., software program) for receiving as inputs said radio access dependent information access and map them on said access technology independent information” (i.e., the software program is configured to receive a request to access an access network from an application and determine an availability of each access network and select an access network from said available access networks, see Lindell § [0014] and fig. 4); and

“an access manager (see Sumner 416 fig. 4) for handling the access to its

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associated radio access network, and for initiating and setting up a radio bearer therein” (see Sumner fig. 4 and § [0031]).

Regarding claim 8, Lindell discloses “a database (i.e., the memory unit 208 of fig. 1) connected to the user terminal and containing configuration data for the applications” (see § [0028] and § [0036]).

Regarding claim 9, Lindell discloses “the access selector comprises link independent QoS related software processes for access procedures” (see § [0014] and § [0039] lines 3 – 14).

Regarding claim 12, Lindell discloses “the access selector resides in the user terminal” (i.e., 210 fig. 2 resides in the mobile terminal 100, see fig. 2) and “is connected to the access adapters” (i.e., 202 fig. 2).

Regarding claim 13, Lindell discloses “the access selector resides in” (i.e., 210 fig. 2 resides in the mobile terminal 100, see fig. 2) or “is connected to the backbone network” (i.e., service 1- k, fig. 1), and “is connected to the access networks” (i.e., 102 fig. 1).

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8. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lindell (Pub # US 2002/0039892 A1) in view of Sumner et al. (Pub # US 2003/0142641 A1) as applied in claim 2 above, and further in view of Sbida (Pub # US 2004/0264474 A1).

Regarding claim 7, Lindell does not disclose “wherein the protocol spanning the backbone network, the access networks, the access adaptors, the access selector, and the applications are the IPv4 or IPv6 protocol suit”.

Sbida discloses “wherein the protocol spanning the backbone network, the access networks, the access adaptors, the access selector, and the applications are the IPv4 or IPv6 protocol suit” (i.e., a communication network using IPv6 and IPv4, see abstract, fig. 1, § [0005], and § [0074]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Lindell’s system as modified in order to use different types of communication protocols, as suggested by Sbida.

The motivation would provide using different types of communication protocols for perform the transition functionality (see Sbida § [0074]).

9. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lindell (Pub # US 2002/0039892 A1) in view of Sumner et al. (Pub # US 2003/0142641 A1) as applied in claim 9 above, and further in view of Ruutu et al. (Pub # US 2004/0260750 A1).

Regarding claim 10, Lindell discloses “a layer 2- link status process for radio access independent link status information” (i.e., radio link condition 302 - fig. 3, see § [0031]) and “acquisition (i.e., communicate and determine a path for a particular access network, see § [0032]) and an resource handling (RH) process (i.e., the network and service selector retrieves one or more user preferences) for radio access independent resource handling” (see § [0033]).

Lindell does not disclose “said QoS related software processes comprise an NSIS (Next Step in IP Signaling) process for radio access independent QoS signaling”.

Ruutu discloses “said QoS related software processes comprise an NSIS (Next Step in IP Signaling) process for radio access independent QoS signaling” (i.e., the IP extension provide QoS signaling such as the Next Steps in Signaling by IETF, see § [0043]) .

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Lindell’s system as modified in order to setting IP header values, as suggested by Ruutu.

The motivation would provide the QoS access interface can be used to communicate with low-level protocols and software modules (see Ruutu, § [0043]).

10. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lindell (Pub # US 2002/0039892 A1) in view of Sumner et al. (Pub # US 2003/0142641 A1) and Ruutu et al. (Pub # US 2004/0260750 A1) as applied in claim 10 above, and further in view of Verma (Pub # US 2004/0085957 A1).

Regarding claim 11, Lindell does not disclose “said QoS related software processes further comprise at least one or both of the following radio access independent processes: a radio access independent FHO (Fast Handover) process for handling of mobility, a CARD (Candidate Access Router) process for acquisition of candidate access routers”.

Verma discloses “said QoS related software processes further comprise a radio access independent FHO (Fast Handover)” (i.e., QoS model with fast handover/context transfer is used to accomplish seamless QoS for real-time services like VoIP, see § [0030]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Lindell’s system as modified in order to improve the conventional fast handover protocol, as suggested by Verma.

The motivation would provide minimize the handover time at the network layer (see Verma, § [0013]).

11. **Claims 15 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindell (Pub # US 2002/0039892 A1), in view of Roy (Pub # EP 1,091,528 A2).

Regarding claim 15, Lindell does not disclose “the radio access dependent information and the status information are signaled from the access adaptors to the access selector at time intervals and when there is a change in any of the QoS parameters associated with the access network”.

Roy discloses “the radio access dependent information and the status information are signaled from the access adaptors to the access selector at time intervals and when there is a change in any of the QoS parameters associated with the access network” (i.e., parameters such as peak rate, delay and delay variation are used to provide QoS over the IP network, see § [0009], § [0056], and § [0060]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Lindell’s method in order to satisfy the need by the user, as suggested by Roy.

The motivation would provide to perform additional services (see Roy, § [0028]).

Regarding claim 16, Lindell does not disclose “wherein a change in a QoS parameter is signaled by a layer 2 trigger or an access technology trigger”.

Roy discloses “wherein a change in a QoS parameter is signaled by a layer 2 trigger or an access technology trigger” (i.e., LAN, Frame Relay, ATM, see § [0014] and § [0015]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Lindell’s method in order to satisfy the need by the user, as suggested by Roy.

The motivation would provide the various types of connection that allows for the transmission of information (see Roy, § [0014]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONG-THUY TRAN whose telephone number is (571)270-3199. The examiner can normally be reached on M-Th, 8:30 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Abul Azad can be reached on (571)272-7599. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MONG-THUY TRAN
Examiner
Art Unit 4145

/KENT CHANG/
Supervisory Patent Examiner, Art Unit 4145